

PATENT

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Title: MONOMERS, OLIGOMERS AND POLYMERS OF 2-FUNCTIONALIZED AND 2,7-DIFUNCTIONALIZED CARBAZOLES

Appl. No.: 10/568,303

Applicant: Leclerc *et. al.*

Filed: October 4, 2006

TC/A.U.: 1626

Examiner: Young, Shawquia

Docket No.: BRKP:012US

Customer No.: 32425

Confirmation No. 3382

CERTIFICATE OF ELECTRONIC TRANSMISSION  
37 C.F.R. § 1.8

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September 16, 2011

Date

Michael R. Krawzsenek

**APPEAL BRIEF**

Commissioner for Patents  
P. O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

Appellants submit this Appeal Brief to the Board of Patent Appeals and Interferences in response to the Office Action dated November 17, 2010. The Notice of Appeal was filed on May 16, 2011. A Request for a two-month extension of time is being filed herewith. The two-month extension brings the deadline for filing the Appeal Brief to September 16, 2011. The fees for the Appeal Brief and extension of time are included. Should any additional fees under 37 C.F.R. §§ 1.16 to 1.21 be required for any reason relating to the enclosed material, or should an overpayment be included herein, the Commissioner is authorized to deduct or credit said fees from or to Fulbright & Jaworski L.L.P. Deposit Account No.: 50-1212/BRKP:012US

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## **I. REAL PARTY IN INTEREST**

The real party in interest is the assignee Université Laval.

## **II. RELATED APPEALS AND INTERFERENCES**

There are no related appeals or interferences.

## **III. STATUS OF THE CLAIMS**

Claims 76-78, 80-85, and 106 are pending. Claims 1-75, 79, and 86-105 have been canceled. Claims 76, 77, 80, 81, 83, 84, and 106 are rejected. Claims 78, 82, and 85 are objected to as being dependent on a rejected base claim but otherwise allowable. Therefore, Appendix A, the Appealed Claims, does not list claims 78, 82, and 85.

The rejection of claims 76, 77, 80, 81, 83, 84, and 106 is being appealed.

## **IV. STATUS OF AMENDMENTS**

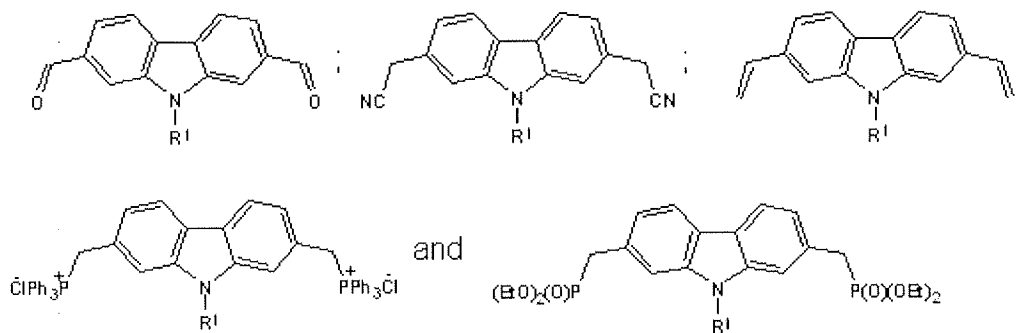
No amendments are pending.

## **V. SUMMARY OF CLAIMED SUBJECT MATTER<sup>1</sup>**

Independent claim 106 is directed to a polymer comprising the reaction product of a compound selected from the group consisting of:

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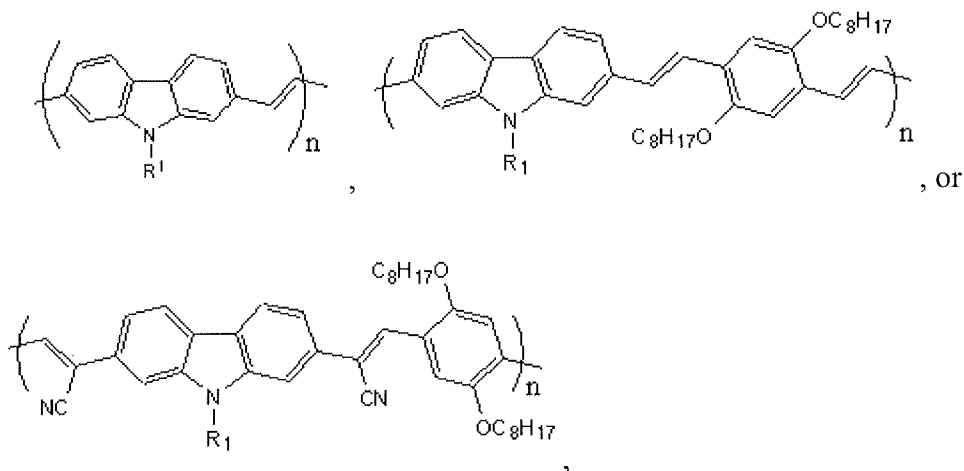
<sup>1</sup> Parentheticals citing to support in the specification for the claim language are exemplary and not meant to indicate that the specific citations are the only support in the specification for the claim language.  
65600750.1



(Specification, para. [0011]; [0026]; FIG. 1)

wherein  $R^1$  is selected from the group consisting of methyl, ethyl, propyl, isopropyl, cyclopropyl, butyl, *sec*-butyl, *tert*-butyl, cyclobutyl, pentyl, cyclopentyl, hexyl, cyclohexyl, heptyl, cycloheptyl, octyl, cyclooctyl, 2-ethylhexyl, nonyl, decyl, phenyl, and 4-octyloxyphenyl; and optionally 2,5-dioctyloxy-1,4-diformylbenzene, (Specification, para. [0010] and [0053])

wherein the polymer comprises the following structure:



wherein  $n = 5-100$  (Specification, para. [0028]-[0033]; [0057]; original claims 100, 101, 106, and 111).

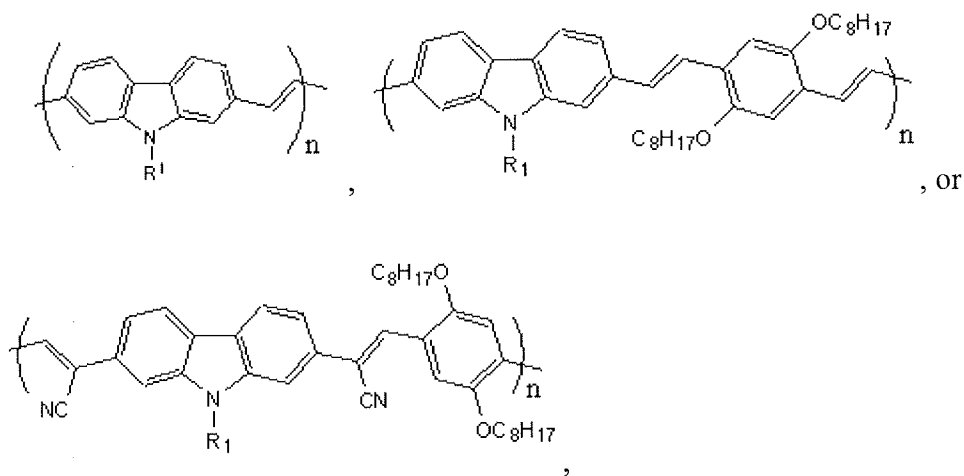
## VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

Claims 76, 77, 80, 81, 83, 84, and 106 stand rejected under 35 U.S.C. § 112, first paragraph, as allegedly failing to comply with the written description requirement.

## VII. ARGUMENT

### A. The Claims Are Supported By Adequate Written Description

The Examiner rejected claims 76, 77, 80, 81, 83, 84, and 106 under 35 U.S.C. § 112, first paragraph, for lack of written description on grounds that the original specification does not disclose polymers comprising the following structures:



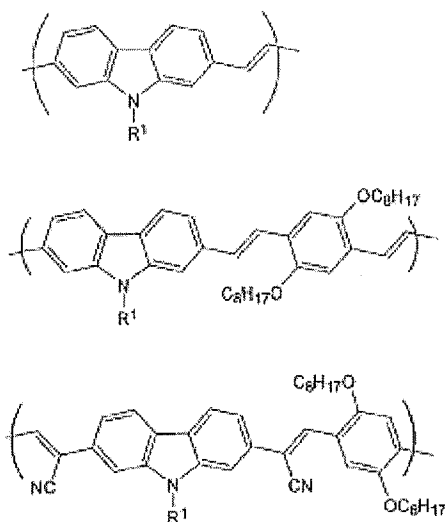
wherein  $n = 5-100$ .

The Examiner's specific issue with these structures is the combination of the R<sup>1</sup> group and  $n = 5-100$ , which the Examiner contends is not shown in the specification. This rejection should be reversed because it is legally unfounded.

To satisfy the written description requirement, the specification must reasonably convey to those skilled in the art that the inventor had possession of the claimed subject matter as of the filing date. *Ariad Pharmaceuticals, Inc. v. Eli Lilly and Co.*, 598 F.3d 1336, 1351 (Fed. Cir. 2010) (en banc). The analysis requires an objective inquiry into the four corners of the specification from the perspective of a person of ordinary skill in the art. *Id.* Furthermore, the

written description requirement does not demand any particular form of disclosure or that the specification recite the claimed invention *in haec verba*. *Id.* at 1352.

A person skilled in the art would conclude that the inventors were in possession of the polymers recited in claim 106 at the time of filing. Original claims 101, 106, and 111 each respectively disclosed “polymers” having the following monomer units, where R<sup>1</sup> is H, an alkyl, or an aryl group:



Thus, it can be seen that the “polymer” structures in original claims 101, 106, and 111 are identical to the structures in current claim 106, but for the specific size of such polymers.

That is, current claim 106 further recites the number of monomer units in the polymer (*i.e.*, n = 5-100). Although original claims 101, 106, and 111 did not, on their face, limit the “polymers” to any particular range of monomer units, one skilled in the art would have concluded that the inventors were in possession of such polymers having 5-100 monomer units based on the disclosure in the specification. In particular, paragraph [0057] defines the term “polymer” as preferably having 5 to 100 monomer units (emphasis added):

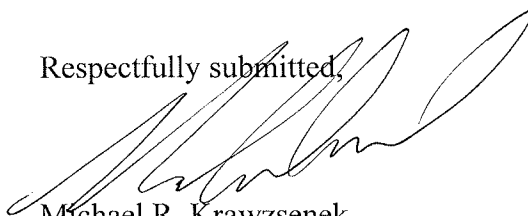
As used herein, the term “*polymer*” is intended to mean a molecule of at least 5 linked monomer units; preferably, 5 to 500 linked monomer units, and more preferably *5 to 100 monomer units*. It is to be understood that the polymers as described herein may be composed of different monomeric units.

Accordingly, the original claims, when read in light of the specification, unequivocally support current claim 106. This would be so recognized by a person having ordinary skill in the art.

**B. Conclusion**

Appellants respectfully submit that the Examiner’s conclusion that claims 76, 77, 80, 81, 83, 84, and 106 should be rejected is unwarranted for at least the above-argued reasons and respectfully request that the Board of Patent Appeals and Interferences reverse the rejection of these claims.

Respectfully submitted,



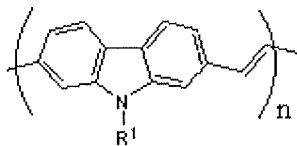
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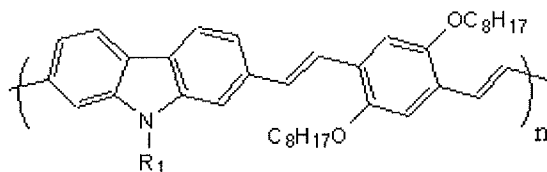
## VIII. APPENDIX A – APPEAL CLAIMS

76. A polymer as defined in claim 106 comprising the following structure:



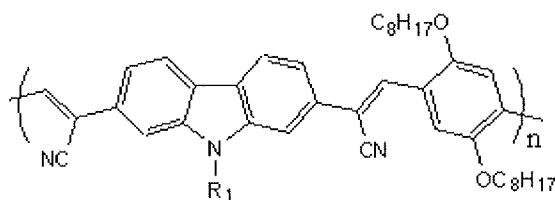
77. A polymer as defined in claim 76, wherein R<sup>1</sup> is hexyl or 2-ethylhexyl.

80. A polymer as defined in claim 106 comprising the following structure:



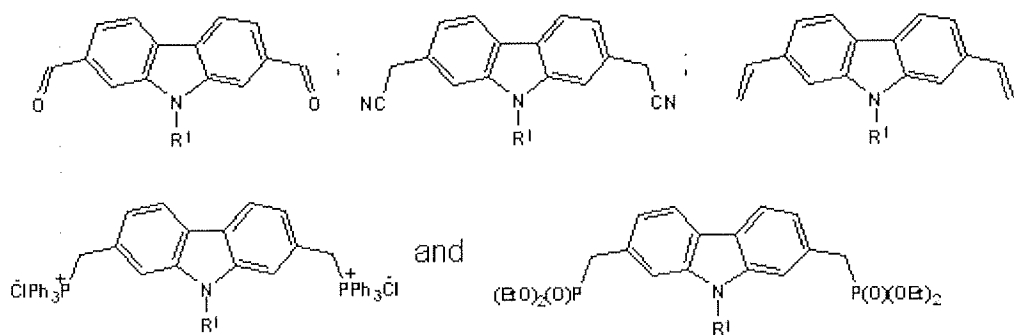
81. A polymer as defined in claim 80, wherein R<sup>1</sup> is hexyl or 2-ethylhexyl.

83. A polymer as defined in claim 106 comprising the following structure:



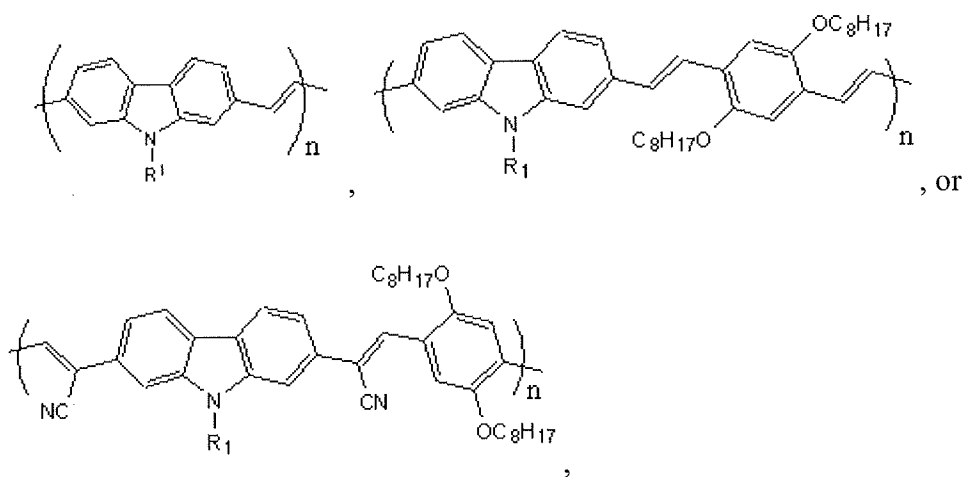
84. A polymer as defined in claim 83, wherein R<sup>1</sup> is hexyl or 2-ethylhexyl.

106. A polymer comprising the reaction product of a compound selected from the group consisting of:



wherein  $R^1$  is selected from the group consisting of methyl, ethyl, propyl, isopropyl, cyclopropyl, butyl, *sec*-butyl, *tert*-butyl, cyclobutyl, pentyl, cyclopentyl, hexyl, cyclohexyl, heptyl, cycloheptyl, octyl, cyclooctyl, 2-ethylhexyl, nonyl, decyl, phenyl, and 4-octyloxyphenyl; and optionally 2,5-dioctyloxy-1,4-diformylbenzene,

wherein the polymer comprises the following structure:



wherein  $n = 5-100$ .

**IX. APPENDIX B - EVIDENCE APPENDIX**

None

**X. APPENDIX C - RELATED PROCEEDINGS**

None